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R & D Inquiry Submission No. 79



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10 December 2002

The Hon. Gary Nairn MP
 Federal Member for Eden-Monaro
 Chairman, Standing Committee on Science & Innovation
 PO Box 232
 Queanbeyan NSW 2620

Dear Gary,

Strengths and Weaknesses in the Innovation Cycle

It was a real pleasure to meet you this morning and to hear about the work of your committee. I regret that with all the opportunities for submissions recently, I was unable to make a submission to your review. I understand that your committee is meeting this afternoon, so I am summarising a few issues below that may be of relevance. With the time available, I am only providing a list with implied opinions. No doubt these issues have been covered by others. I would be pleased to follow up in the near future with further information and also to sustain my arguments if that can be of help.

As background, I have served as the Director of national and international research institutions for 30 years in the U.S.A., U.K., Switzerland and Australia. My field is in the basic and strategic biological sciences with applications to agriculture and food, biomedicine and health, environment and conservation. My research is in fertility, developmental biology and stem cell biology with applications in biotechnology. I served as scientific advisor to the House of Representatives Committee on Cloning and Stem Cell Biology. I chair the Australian Biotechnology Advisory Council, the Australian BioScience Consortium (BIOZ), the Society for Reproductive Biology and ANUTECH.

Australia has undeniable advantages and strengths in basic and strategic research across the board.

Some examples of particular strengths are in biotechnology, photonics, solar energy, and niche areas of environmental technologies. I can provide our submission to National Research Priorities which provides more substance to this argument. On the international scale, we box above our weight in producing 3% of global research, with only 1.5% of the world's GDP. However, our research is often fragmented and lacking in critical mass; we have a poor assessment of quality rather than quantity; our IP management and protection is patchy; and the efficiency of our financial vehicles and marketing is immature.

If I focus on some of the areas needing attention rather than on areas where we are strong, I suggest that there are at least five major gaps in the innovation cycle – some of which are being addressed by very recent implementation of 'Backing Australia's Ability' and the concentration of research priorities. Each of these areas may need additional strategies and actions to deliver rapid results.

1. The availability of early pre-seed funds to accelerate technology opportunities and to bring early dialogue between business and industry, academia and research, and government.

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2. Management and marketing of IP, with rigorous assessment of market value and the competitive development of patenting policy.
3. The strengthening and acceleration of start-up and spin-off companies through incubators with improved business services to build competitiveness, awareness and focus.
4. Financial vehicles geared to international benchmarks and milestones that will help to orientate Australian technologies and companies to markets in the US, Europe and Japan.
5. A greater team approach and improved communications in building Australia's marketing into these arenas. AusIndustry and others are doing well and need support from other components of the process, together with enhanced dialogue among the various players.

I do hope that these rather rushed comments are of some assistance. They can certainly be challenged but they are based on the experience that I have gained in the four years since I returned to Australia.

With best wishes,
Yours sincerely,



John Hearn